

## **IN THE CLAIMS**

Amend the claims as follows.

Claims 1-64 (Canceled).

65. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Nm strain Z2491 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria gonorrhoeae* (Ng) strain MS11, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes, provided that said DNA or the complement of said isolated DNA is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, a glutathione peroxidase encoding gene, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, or rotamase,

said DNA being within an islet involved in the colonization of the nasopharynx or invasion of the submucousal space or systemic dissemination.

66. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Region 2 of Nm strain Z2491 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria gonorrhoeae* (Ng) strain MS11, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7%

sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes,

provided that said DNA or the complement of said isolated DNA is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, rotamase,

said DNA being within an islet involved in the colonization of the nasopharynx or invasion of the submucosal space or systemic dissemination.

67. (Withdrawn) The isolated DNA or complement of claim 66 wherein said Region 2 is a DNA which encodes an amino acid selected from the group consisting of SEQ ID NOs: 37-45.

68. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Region 2 of Nm strain Z2491 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria gonorrhoeae* (Ng) strain MS11, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes,

provided that said DNA or the complement of said isolated DNA is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, rotamase, said DNA encoding a peptide localized beyond the cytoplasmic membrane.

69. (Currently Amended) An isolated DNA which is specific to *Neisseria meningitidis* (Nm) and *Neisseria gonorrhoeae* (Ng), ~~specific and~~ hybridizes on a Southern blot to SEQ ID NO:95 ~~a DNA sequence of Region 4 of Nm strain Z2491 and to a DNA sequence of MS11~~ and does not hybridize on a Southern blot to a DNA sequence of *Neisseria lactamica* (NI) strain NI8064, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes, or the complement of said isolated DNA which is specific to *Neisseria meningitidis* (Nm) and *Neisseria gonorrhoeae* (Ng),

provided that said DNA or the complement of said isolated DNA is not *pilC*, or a gene involved in the biosynthesis of any one of the polysaccharide capsule, IgA proteases, pilin, a protein which binds transferrin ~~or~~, a protein which binds lactoferrin, ~~or~~ and an opacity protein,

said DNA being within an islet involved in the colonization of the nasopharynx or invasion of the submucosal space or systemic ~~desimination~~ dissemination of Nm.

Claim 70. (Canceled)

71. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Region 4 of Nm strain Z2491 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria gonorrhoeae* (Ng) strain MS11, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes,

provided that said DNA or the complement of said isolated DNA is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, rotamase, said DNA encoding a peptide localized beyond the cytoplasmic membrane.

72. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Region 5 of Nm strain Z2491 and to a DNA sequence of MS11 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria lactamica* (NI) strain NI8064, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes, or the complement of said isolated DNA,

provided that said DNA or the complement of said isolated DNA is not *pilC*, a gene involved in the biosynthesis of any one of the polysaccharide capsule, IgA proteases, pilin, a protein which binds transferrin or lactoferrin or an opacity protein,

said DNA being within an islet involved in the colonization of the nasopharynx or invasion of the submucousal space or systemic dissemination.

73. (Previously Presented) The isolated DNA or complement of claim 72 said DNA sequence of Region 5 hybridizing with a clone selected from the group consisting of B11, C29, C52, E34, C8, E2, B40, E59, E94, C47, E78, C45, E23 and E103.

74. (Withdrawn) An isolated DNA which is *Neisseria meningitidis* (Nm) specific and hybridizes on a Southern blot to a DNA sequence of Region 5 of Nm strain Z2491 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria gonorrhoeae* (Ng) strain MS11, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes,

provided that said DNA or the complement of said isolated DNA is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, rotamase,

said DNA encoding a peptide localized beyond the cytoplasmic membrane.

75. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 65.

76. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 66.

77. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 67.

78. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 68.

79. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 69.

Claim 80. (Canceled)

81. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 71.

82. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 72.

83. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 73.

84. (Withdrawn) An isolated peptide encoded by a DNA sequence of claim 74.

85. (Withdrawn) A composition comprising a DNA or complement of claim 65  
and a carrier.

86. (Withdrawn) A composition comprising a DNA or complement of claim 66 and a carrier.

87. (Withdrawn) A composition comprising a DNA or complement of claim 67 and a carrier.

88. (Withdrawn) A composition comprising a DNA or complement of claim 68 and a carrier.

89. (Previously Presented) A composition comprising a the DNA or complement of claim 69 and a carrier.

Claim 90. (Canceled)

91. (Withdrawn) A composition comprising a DNA or complement of claim 71 and a carrier.

92. (Withdrawn) A composition comprising a DNA or complement of claim 72 and a carrier.

93. (Withdrawn) A composition comprising a DNA or complement of claim 73 and a carrier.

94. (Withdrawn) A composition comprising a DNA or complement of claim 74 and a carrier.

95. (Withdrawn) A composition comprising a peptide of claim 75 and a carrier.

96. (Withdrawn) A composition comprising a peptide of claim 76 and a carrier.

97. (Withdrawn) A composition comprising a peptide of claim 77 and a carrier.

98. (Withdrawn) A composition comprising a peptide of claim 78 and a carrier.

99. (Withdrawn) A composition comprising a peptide of claim 79 and a carrier.

Claim 100. (Canceled)

101. (Withdrawn) A composition comprising a peptide of claim 81 and a carrier.

102. (Withdrawn) A composition comprising a peptide of claim 82 and a carrier.

103. (Withdrawn) A composition comprising a peptide of claim 83 and a carrier.

104. (Withdrawn) A composition comprising a peptide of claim 84 and a carrier.



105. (Withdrawn) An isolated peptide encoded by an *Neisseria meningitidis* (Nm) specific DNA sequence obtainable by a subtractive technique comprising hybridizing a Nm DNA population and a subtractive *Neisseria* strain DNA population, under the following hybridization conditions: 48 h at 55°C, with 30 mM N-hydroxyethyl)piperazine-N'-(3-propanesulphonic acid), 3mM EDTA, pH 8.0 and 1.2mM NaCl, wherein non- Nm specific DNA sequences in said Nm DNA population are subtracted from said Nm DNA population to produce an Nm specific subpopulation, amplifying Nm specific DNA sequences in said Nm specific subpopulation, and purifying said Nm specific DNA sequences, provided that said DNA sequence is not IS1106 (accession number Z11857), *frpA*, *frpC*, *opc*, *porA*, *pilC*, a glutathione peroxidase encoding gene, and a gene involved in the biosynthesis of any one of the polysaccharide capsule, rotamase, IgA protease, pilin, a protein which binds transferrin or lactoferrin or an opacity protein.

106. (new) An isolated DNA which is specific to *Neisseria meningitidis* (Nm) and *Neisseria gonorrhoeae* (Ng), and hybridizes on a Southern blot to SEQ ID NO:95 and does not hybridize on a Southern blot to a DNA sequence of *Neisseria lactamica* (NI) strain NI8064, under the following hybridization conditions: 16 h at 65°C, with NaPO<sub>4</sub> 0.5 M, pH 7.2; EDTA-Na 0.001 M, 1%, 1% bovine serum albumin and 7% sodium dodecylsulphate, followed by at least two washes in a solution comprising Na PO<sub>4</sub> 40 mM pH 7.2/EDTA 1 mM/SDS 1%, the final wash being conducted at 65°C for 5 minutes, or the complement of said isolated DNA which is specific to *Neisseria meningitidis* (Nm), and *Neisseria gonorrhoeae* (Ng),

provided that said DNA or the complement of said isolated DNA is not *pilC*, or a gene involved in the biosynthesis of any one of the polysaccharide capsule, IgA proteases, pilin, a protein which binds transferrin, a protein which binds lactoferrin, and an opacity protein.

107. (new) A composition comprising a the DNA or complement of claim 106 and a carrier.